

Deutsche Physiologische Gesellschaft
Nederlandse Vereniging voor Fysiologie

PROGRAM

Joint Meeting of the
Deutsche Physiologische Gesellschaft (74th meeting)
with the Nederlandse Vereniging voor Fysiologie

Heinrich Heine
HEINRICH HEINE
UNIVERSITÄT
DUISBURG
ESSEN

March 4th to March 7th, 1992
in Düsseldorf

2029258359

**Deutsche Physiologische Gesellschaft
Nederlandse Vereniging voor Fysiologie**

PROGRAM

Joint Meeting of the
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in Düsseldorf

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THURSDAY, March 5, 1992

Lecture Hall	2A/3A	2B	2C	2D	3E
8:00 am					
9:00	OPENING				
10:00	PLEN I Balaban				
11:00	Ions and Channels	Exercise	Endothelium	Renal Hemodynamics	Cardiac Electrophysiology
12:00	Symposium Neuroplasticity	Symposium Control of Breathing	Nervous Systems	Symposium Epithelial Cl ⁻ Channels	Microcirculation
1:00 pm					
2:00					
3:00	POSTER SESSION				
4:00					
5:00	PLEN II Scheid				
6:00	Mitgliederversammlung: DPG				
7:00					

FRIDAY, March 6, 1992

Lecture Hall	2A/3A	2B	2C	2D	3E
8:00 am					
9:00	PLEN III Duling				
10:00	Transmitters and Modulators	Skeletal Muscle	Sensory Physiology	Epithelial Ca ²⁺ -Control	Coronary Physiology
11:00					
12:00	Symposium Patch-Clamp	Symposium Ca ²⁺ -Release	Brain Metabolism	Symposium Signal Transduction	Symposium EDRF/NO
1:00 pm					
2:00					
3:00	POSTER SESSION				
4:00					
5:00	PLEN IV Duling				
6:00					
7:00	SCHLOSS BURG: DINNER				

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SATURDAY, March 7, 1992

Lecture Hall	2A/3A	2B	2C	2D	3E
8:00 am					
9:00	Synapse	Transport Mechanisms	Smooth Muscle	Neurophysiology	Cardiac Metabolism
10:00	Symposium K ⁺ Channels	Epithelial pH Control	Respiration	Symposium Muscle Energetics	Symposium Heart Injury
11:00					
12:00					
	PLEN V Stuhmer				
1:00 pm					
2:00					
3:00					

FAREWELL PARTY - ROY LICHTENSTEIN HALL

Executive Committee of the Netherlands Society for Physiology

President:	Robert S. Reneman
Secretary General:	Habo J. Jongsma
Treasurer:	Robert A. Binkhorst
Ordinary Member:	Ries W. van Hof
Ordinary Member:	Meep V. van Kampen
Ordinary Member:	Pim G. Zijlstra

Committee of the Deutsche Physiologische Gesellschaft

Vorsitzender:	J. Schrader, Düsseldorf
Stellvertreter:	E. Bassenge, Freiburg
Ständiger Sekretär:	W. Kuschinsky, Heidelberg
Gewählte Vorsitzende:	J. Dudel, München (1993) U. Zwienen, Jena (1994) E.-J. Speckmann, Münster (1995) C. Bauer, Zürich (1996)

Scientific Committee

H. Haas, Düsseldorf
H. Jongsma, Amsterdam
H.M. Piper, Düsseldorf
R. Reneman, Maastricht
J. Schrader, Düsseldorf

The symposia were organized by the respective chairpersons.

Local Organizing Committee

Members of the Departments of Physiology I and II and
the Institute of Experimental Surgery

General Information

Place and date of the meeting: Roy Lichtenstein Hall
Building 22.01 (Preclinical Departments)
Heinrich-Heine-Universität Düsseldorf
Universitätsstraße
March 4-7, 1992

Permanent Office: Prof. Dr. J. Schrader
Physiologisches Institut I
Heinrich-Heine-Universität
Moorenstr. 5, 4 000 Düsseldorf
Secretary: Mrs. G. Sauer
Phone: 0221/311-2670
Fax: 0221/311-2672

Registration office: Wednesday, March 4: 3:00 p.m. - 6:00 p.m.
Thursday, March 5: 7:30 a.m. - 6:00 p.m.
Friday, March 6: 8:00 a.m. - 6:00 p.m.
Saturday, March 7: 8:00 a.m. - 2:00 p.m.
Location: Roy Lichtenstein Hall
(see map III)

Mitglieder-Versammlung: Members of the Deutsche Physiologische
Gesellschaft only:
March 5, 5:15 p.m. Lecture Hall 2 A

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Registration fee:

For members of the Deutsche Physiologische Gesellschaft, the Nederlandse Vereniging voor Fysiologie, and members of FEPS: DM 90.00 (DM 110.00 for non-members). Students (identification necessary) are exempted from registration fees.

Registration allows free access to the reception, to the scientific sessions and includes the program booklet (will be mailed to registered participants) as well as the abstract volume (available at the meeting).

Please, transfer the registration fee and the fees for the social program (see page 9) to the following account:

Physiologentagung 1992
Deutsche Bank, Düsseldorf (BLZ 30070010)
Account No. 069 559 300

or enclose, together with the registration, a crossed cheque made payable (in DM) to the 'Physiologentagung 1992'.

Accommodation:

Please, make your hotel reservation as soon as possible at the 'Verkehrsverein Düsseldorf' (Tourist Information, Tel.: 0211-35 05 05 / Fax: 0211-16 10 71).

Student accommodation will be available in youth hostels (4-8 persons/room for approx. DM 17.00 per night/breakfast). Address: Youth Hostel, Düsseldorf Straße 1, W-4000 Düsseldorf 11, Tel.: 0211-57 40 41).

Presentations:

Oral presentation in English only 10 min + 5 min for discussion. Bring your slides (5 x 5 cm) to the projectionist at least 15 min before start of the session.

Poster presentation: 140 cm (length) x 100 cm (height) on a cork-like surface. Bring your own pins. Posters may be displayed all day they are scheduled. There will be a poster discussion at the site of the poster. The chairman will start the discussion 45 min before the end of the poster session.

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Important: Each poster presenter should be prepared to within one minute (only!) his/her major findings during the guided poster discussion.

- Travel Information:** By airplane: Düsseldorf airport is located in the north of the city, the meeting place (University) is in the south. Take the S-Bahn: line 7 from the airport to the main railway station ('Hauptbahnhof') and continue by tram (see below).
- By train: From Düsseldorf main station take tram, line 704, to 'Universität-Ost'. From there follow signs.
- Further information on public transport is provided in the appendix.
- By car: (see map I)
- Parking:** There is sufficient parking space available in the immediate vicinity of the meeting site..
- Lunch and coffee:** Lunch will be served at the University Cafeteria (Mensa). There will be the choice between two meals, each at a price of DM 5.00. Tickets can only be bought at the registration office in the Roy Lichtenstein Hall. There are no restaurants within walking distance of the meeting site. A list of restaurants located within short driving distance will be available at the registration office.
- Coffee will be served in the Roy Lichtenstein Hall during the breaks of the scientific sessions.
- Outlook:** There will be a Symposium on "Cardiac energetics and regulation of coronary blood flow" in Düsseldorf in October 1992. Further information: Prof. Dr. J. Schrader
- The 72nd Meeting of the 'Deutsche Physiologische Gesellschaft' will take place in Munich, March 8 - 12, 1993.

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Social Program

- Wednesday, March 4**
7:00 - 9:00 p.m.
- Reception at the Kunstsammlung Nordrhein-Westfalen.
- An introduction into the collection will be given in the main lecture hall of the museum. Only drinks will be served.
- For location see map I, for public transport appendix.
- Friday, March 6**
7:30 p.m. - 11:30 p.m.
- Dinner at Schloß Burg an der Wupper.
- Buses will depart in the back of the main railway station (Bertha-von-Suttner-Platz) at 6:30 p.m. and at the meeting place (Universitätsstraße) at 6:45 p.m.
Don't be late!
- In case you would like to take your car: take the Autobahn A 59 or A 3 to 'Autobahnkreuz Leverkusen'. Then change to the A 1, direction 'Wuppertal'. Take second exit: 'Schloß Burg/Wermelskirchen'.
- Dress: informal
- Tickets (DM 40.00), if still available, may be bought at the registration office on Thursday morning.
- Saturday, March 7**
1:00 p.m. - 3:00 p.m.
- Farewell party in the Roy Lichtenstein Hall.

Program for Accompanying Persons

Thursday, March 5
11:00 a.m. - 1:00 p.m.

Kunstmuseum Düsseldorf im Ehrenhof

The Glassware Collection of this Art Museum, one of the most extensive in the world, combines antique glass with Venetian and Medieval treasures. Of special interest is Prof. Hentrich's unique collection of Art Nouveau ornamental glassware. Dr. Sylvia Neysters will guide through the collection. (Ticket DM 10,00)

Meeting point:
11:00 a.m. Main entrance Kunstmuseum, Ehrenhof 5 (Düsseldorf downtown).

Friday, March 6
10:00 - 12:00 a.m.

Schloß Benrath

Built for Elector-Prince Karl Theodor (1742-1799) by the Paris-trained Nicolas de Pigage, the palace at Benrath is one of the most significant legacies of the German late Baroque. The tour of the palace will be given by Professor Irene Markowitz. (Ticket DM 10,00)

Meeting point:
10:00 a.m. Main entrance of the palace.

Düsseldorf-Benrath is located in the south and can easily be reached by public transportation: tram 701.

Overview: Mini-Symposia

THURSDAY
March 5

11:30 a.m. - 1:10 p.m.

Lecture Hall

Neuroplasticity
(Haas/Lopes da Silva)

2 A

Control of Breathing
(Scheid/Berkenbosch)

2 B

Regulation of Epithelial
Chloride Channels
(Greger/Bijman)

2 D

FRIDAY
March 6

11:30 a.m. - 1:10 p.m.

Patch-Clamp and its
Grand Children
(Lux/Trautwein)

2 A

Ca²⁺-Release from Intracellular
Pools
(Isenberg/Penner)

2 B

Receptor- and G-Protein Mediated
Signal Transduction
(Schulz/Moolenaar)

2 D

Functional Implications of
Endothelium-Derived Nitric Oxide
(Busse/de Mey)

3 E

SATURDAY
March 7

10:00 a.m. - 11:40 a.m.

K⁺-Channels in Excitable and
Non-Excitable Tissues
(Ruppersberg/Ypey)

2 A

Muscle Energetics
(Daut/Stienen)

2 D

Energy and Myocardial Cell Injury
(Piper/van der Vusse)

3 E

THURSDAY
March 5

Lecture Hall 3 A

8.30 - 8.55 a.m.

Opening

Lecture Hall 3 A

9.00 - 9.50 a.m.

Plenary Lecture I

Chairperson: Kammermeier H, Aachen

1. Balaban R
Bethesda/USA

Control of energy metabolism in the intact heart

Lecture Notes:

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THURSDAY
March 5

Oral Presentation

Lecture Hall 2 A

10:00 - 11:15 a.m.

IONS AND CHANNELS

Chairpersons: Dudel J, München
Schlue W-R, Düsseldorf

148. Benndorf K: Gating kinetics of single cardiac Na channels studied over a wide temperature range
149. Leinders T, van Kleef RGDM, Vijverberg HPM: Kinetics of three types of Ca^{2+} -activated K^{+} channels
150. Müller TH, Partridge LD, Swandulla D: Calcium buffer capacity of invertebrate bursting pacemaker neurones
151. Reif G, Hanke W, Schlue W-R: ATP-inhibited and Ca^{2+} -dependent K^{+} -channels in the soma membrane of leech rezius neurones
152. Madeja M, Stocker M, Mußhoff U, Pongs O, Speckmann E-J: Potential-dependent effects of the epileptogenic drug pentylenetetrazol on cloned rectifier channels (oocyte, *xenopus laevis*)

11:30 a.m. - 1:10 p.m.

NEUROPLASTICITY (Mini-Symposium)

Chairpersons: Lopes da Silva FH, Amsterdam
Haas H, Düsseldorf

81. Wadman WJ, Joels M, van der Linden J, Vreugdenhil: The role of calcium in kindling epileptogenesis in the rat hippocampus
82. Mironov SL, Lux HD: Long-lasting enhancement of high-threshold Ca current by glutamate in hippocampal neurons
83. Joels M: Control of hippocampal excitability by corticosteroid hormones
84. Reymann KG, Frey U, Behnisch T: Metabotropic glutamate and dopamine receptors enable the maintenance of long-term potentiation in hippocampal neurons

THURSDAY
March 5

Oral Presentation

Lecture Hall 2 B

10:00 - 11:15 a.m.

EXERCISE PHYSIOLOGY

Chairpersons: Koepchen HP, Berlin
Sargeant T, Amsterdam

- 524. Abel H-H, Klüßendorf D, Koralewski HE, Droh R, Koepchen HP: The inhomogeneous and non-stationary nature of rest
- 525. Sargeant AJ, Beelen A: Potentiating and fatiguing effects of prior exercise on dynamic muscle function in humans
- 526. Maassen N, Schneider G, Busse M-W: Is the relation between [lac] and power superior to $\dot{V}O_{2\text{MAX}}$ to determine endurance performance?
- 527. Sen CK, Hänninen O: Glutathione S-transferase (GST) following endurance training and exhaustive exercise
- 528. Hopman MTE, Oeseburg B, Binkhorst RA: The effect of an anti-G suit on physiological responses during arm exercise in paraplegics

11:30 a.m. - 1:10 p.m.

CONTROL OF BREATHING (Mini-Symposium)

Chairpersons: Berkenbosch A, Leiden
Scheid P, Bochum

- 496. DeGoede J, Berkenbosch A: Modelling the ventilatory response to O_2 in man
- 497. Kuwana S, Morawietz G, Richter DW: The respiratory network in isolated perfused brainstem of rat
- 498. Okada Y, Mückenhoff K, Scheid P: Hypercapnic response of respiratory neurons in the ventral medulla of the isolated brainstem-spinal cord preparation
- 499. van der Grinten CPM, Luijendijk SCM: Lung receptors and the control of breathing
- 500. Delpiano MA, Acker H: Hypoxia activates adenylate cyclase in the carotid body independent of hormone-receptor interaction

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THURSDAY
March 5

Oral Presentation

Lecture Hall 2 C

10:00 - 11:15 a.m.

ENDOTHELIUM

Chairpersons: Becker BF, München
Pohl U, Lübeck

- 467. Benzing T, Winter I, Busse R: Feedback inhibition by NO of the Ca^{2+} -dependent autocoid formation in human endothelial cells is mediated by cyclic GMP
- 468. de Wit C, Pohl U: Effects of prostaglandins and EDRF in the microvascular response to acetylcholine in the hamster cremaster
- 469. Bassenge E, Münzel T: Endothelium derived nitric oxide (EDNO) is a potent physiological regulator of venous tone
- 470. Monos E, Contney SJ, Cowley AW jr, Stekiel WJ: Axial extension of vein induces endothelium dependent cell membrane hyperpolarization in the smooth muscle in vivo
- 471. Decking U, Papadopoulos H, Spahr R, Schrader J: ^{31}P and ^{19}F NMR-spectroscopy of endothelial cells

11:30 a.m. - 1:00 p.m.

MOTOR AND AUTONOMIC NERVOUS SYSTEMS

Chairperson: Illert M, Kiel
ten Bruggencate G, München

- 153. Illert M, Kümmel H, Wietelmann D: Size distribution of motoneurons (MNs) to cat forelimb-muscles
- 154. Bigland-Ritchie B, Kieft R, Rice CL: Reflex control of human motoneuron firing in fatigue?
- 155. Schemann M, Grundy D: First identification and characterization of vagally innervated enteric neurones
- 156. Häbler H-J, Jänig W, Peters O: Activity related to ventilatory blood pressure waves in sympathetic vasoconstrictor neurones supplying the rat hindlimb
- 157. Offner B, Czachurski J, König S, Sailer H: CO_2 -NaCl-perfusion of the lower brainstem: effects on local pH, sympathetic and phrenic nerve activity
- 158. Keil R, Gerstberger R, Simon E: Short-term hypothalamic cooling and warming alters thermoregulatory, cardiovascular and hormonal effector systems in hyperosmotic conscious rabbits